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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/798,261	03/12/2004	Kazumasa Kobayashi	826.1939	5852

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EXAMINER

PARIHAR, SUCHIN

ART UNIT	PAPER NUMBER
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2825

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/21/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/798,261

Applicant(s)

KOBAYASHI, KAZUMASA

Examiner

Suchin Parihar

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 9/8/2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

This FINAL office action is in response to application 10/798,261, amendment filed 9/8/2006. Claims 9-16 are currently amended. Claim 18 is currently new. Claims 1-18 are currently pending in this application.

1. Applicant's arguments filed 9/8/2006 have been fully considered but they are not persuasive. The applicable rejections from the previous office action have been incorporated herein.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 1-4, 6, 8-12, 14 and 16-18 are rejected under 35 U.S.C. 102(b)** as being anticipated by Kikuchi et al. (6,385,758).

4. With respect to claim 1, Kikuchi teaches: a storage device to store contour information about each component (i.e. component contour data is used by layout data converter 111 of Figure 3, wherein the contour data originates from the layout data memory unit 20 of Figure 3, Col 8, lines 1-7); an indication device to indicate a plurality of components to be collectively arranged (i.e. to place or arrange the parts or components, Col 2, lines 45-50) in the electronic circuit and a layout distance between two of the plurality of components (i.e. a positional relationship between components

determines a moving distance, Col 4, lines 50-55); a calculation device (layout data converter, Col 7, lines 55-60) to obtain (layout data is supplied to layout data converter, Col 7, lines 55-60) contour information (see contours of Figure 9, prepared by the layout data converter, Col 7, lines 55-60) about the plurality of components (see all components of Figure 9, supplied to the layout data converter) from the storage device (i.e. layout data memory 20 of Figure 3) and to calculate a contour (processing and decomposing component contours and substrate contour lines, Col 7, lines 55-65) of a component region for collectively arranging the plurality of components (i.e. component contours are arranged, Col 8, lines 4-6) using the obtained contour information and the indicated layout distance (i.e. a positional relationship between components determines a moving distance, Col 4, lines 50-55); and a display device to display the calculated contour of the component region on the screen (i.e. layout result display unit 780 may comprise a CRT display, Col 13, lines 55-60).

5. With respect to claims 9 and 17, Kikuchi teaches: indicating a plurality of components to be collectively arranged (i.e. to place or arrange the parts or components, Col 2, lines 45-50) in the electronic circuit and a layout distance between two of the plurality of components (i.e. a positional relationship between components determines a moving distance, Col 4, lines 50-55); calculating a contour of a component region for collectively arranging the plurality of components (i.e. component contours are arranged, Col 8, lines 4-6) using contour information (component contours and substrate contour lines, Col 7, lines 55-65) about the plurality of components and the indicated layout distance (i.e. a positional relationship between components determines

a moving distance, Col 4, lines 50-55); and displaying the calculated contour of the component region on the screen (i.e. layout result display unit 780 may comprise a CRT display, Col 13, lines 55-60).

6. With respect to claims 2 and 10, Kikuchi teaches all the elements of claims 1 and 9, from which the claims depend respectively. Kikuchi teaches: the indication device indicates a component region to be transformed (i.e. arrangement of the components is uniformly compacted, Col 5, lines 19-25); the calculation device transforms the indicated component region (i.e. compaction is carried out, Col 5, lines 19-25); and the display device displays a transformed component region (i.e. layout result display unit 780).

7. With respect to claims 3 and 11, Kikuchi teaches all the elements of claims 1 and 9, from which the claims depend respectively. Kikuchi teaches: the indication device indicates a component region to which attribute information is set (each pair of adjacent components in the layout has constraint data assigned to the pair, Col 5, lines 1-13); and the calculation device sets attribute information about each component included in the indicated component region (i.e. a movable distance for each component is assigned).

8. With respect to claims 4 and 12, Kikuchi teaches all the elements of claims 1 and 9, from which the claims depend respectively. Kikuchi teaches: the indication device indicates a plurality of components that are separately arranged in the electronic circuit (i.e. place or arrange parts or components in the layout, Col 2, lines 45-50); and the display device collectively displays the indicated plurality of components as a component region (i.e. layout result display unit 780, Col 13, lines 55-60).

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9. With respect to claims 6 and 14, Kikuchi teaches all the elements of claims 1 and 9, from which the claims depend respectively. Kikuchi teaches: the indication device indicates a component region to be divided (i.e. a pattern division section for dividing a pattern into a plurality of partial areas, Col 3, lines 43-47); and the calculation device divides the indicated component region into a plurality of component regions (i.e. a pattern division section for dividing a pattern into a plurality of partial areas, Col 3, lines 43-47); and the display device displays the plurality of component regions (i.e. layout result display unit 780, Col 13, lines 55-60).

10. With respect to claims 8 and 16, Kikuchi teaches all the elements of claims 1 and 9, from which the claims depend respectively. Kikuchi teaches: the indication device indicates a reference component (i.e. terminal constraint graph prepares a pair of configurations, Col 7, lines 18-23); and the calculation device calculates a contour of the component (i.e. component contours are arranged, Col 8, lines 1-5) region in consideration of relative position relation (i.e. positional relationship between components, Col 4, lines 50-55) between the indicated reference component and the plurality of components.

11. With respect to claim 18, Kikuchi teaches all the elements of claim 1, from which the claim depends. Kikuchi teaches: wherein the component region is determined by type of component (i.e. terminals, wires, Col 8, lines 1-10) and number of components (common component numbers, Col 10, lines 15-25).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. **Claims 5, 7, 13 and 15 are rejected under 35 U.S.C. 103(a)** as being unpatentable over Kikuchi et al. (6,385,758) in view of Aubel et al. (6,910,200).

14. With respect to claims 5 and 13, Kikuchi teaches all the elements of claims 1 and 9, from which the claims depend respectively. Kikuchi teaches: the indication device indicates a component region to be divided (i.e. pattern division section for dividing a substrate into a plurality of partial areas, Col 3, lines 43-47). Kikuchi fails to teach: the display device separately displays at least one indicated component from among a plurality of components included in the indicated component region and collectively displays remaining components as a component region. However, Aubel teaches: the display device separately displays at least one indicated component (i.e. placement tool may load a physical representation of the selected region or cell, Col 19, lines 55-60) from among a plurality of components included in the indicated component region (i.e. selected region, Col 19, line 48) and collectively displays remaining components (i.e. children of the selected region may be displayed, Col 19, line 50) as a component region. It would have been obvious to one of ordinary skill in the art at the time of the

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invention to incorporate Aubel into the invention of Kikuchi for the following reason(s):

Aubel improves the invention of Kikuchi by providing a method to organize [or segregate] one or more cells or regions of a layout in order to improve (i.e. transform) the layout or design of each component.

15. With respect to claims 7 and 15, Kikuchi teaches all the elements of claims 1 and 9, from which the claims depend respectively. Kikuchi fails to teach: the indication device indicates a plurality of component regions to be integrated; the calculation device integrates the indicated plurality of component regions into one component region; and the display device displays the one component region. However, Aubel teaches: the indication device indicates a plurality of component regions to be integrated (i.e. designer may select an un-placed region or cell and integrate it into the second physical window, Col 19, lines 55-60); the calculation device integrates the indicated plurality of component regions into one component region (i.e. the placement tool may then move the region or cell from the first physical window to the second physical window, wherein said region or cell is integrated with other cells or regions [i.e. children] that pre-exist in the second physical window, Col 19, lines 45-65); and the display device displays the one component region (i.e. the second physical window displays the integrated one component region in the floor plan window, Col 19, lines 49-52).

Response to Arguments

16. Applicant's arguments filed 9/8/2006 have been fully considered but they are not persuasive. Examiner's response to arguments follow below.

17. Applicant asserts that Kikuchi fails to teach or suggest: the calculation of a contour of a component region. Examiner disagrees with this assertion.
18. Examiner points out that Kikuchi teaches: the calculation of a contour of a component region (decomposition [i.e. processing, calculating] of component contours and substrate contour lines, see Col 7, lines 55-65).
19. Applicant asserts that Kikuchi fails to teach or suggest: an indication device indicating a component region to be transformed. Examiner disagrees with this assertion.
20. Examiner points out that Kikuchi teaches: an indication device (i.e. selection of component constraint graph of shortest route in compaction direction, see Figure 3, S104) indicating a component region (i.e. selected component, see Fig 4, S105) to be transformed (i.e. compacted, see Fig 4, S105).
21. Applicant asserts that Kikuchi fails to teach or suggest: the indication device indicates a component region to which attribute information is set. Examiner disagrees with this assertion.
22. Examiner points out that Kikuchi teaches: the indication device indicates a component region (selected component and component constraint graph, see Fig 4, S104 and S105) to which attribute information (see Figure 6C, position data on component including component number, see Figure 6C) is set.
23. Applicant asserts that Kikuchi in view of Aubel fails to teach or suggest: the display device separately displays at least one indicated component from among a plurality of components included in the indicated component region and collectively

displays remaining components as a component region. Examiner disagrees with this assertion.

24. Examiner points out that Aubel teaches: the display device separately displays at least one indicated component (i.e. placement tool may load a physical representation of the selected region or cell, Col 19, lines 55-60) from among a plurality of components included in the indicated component region (i.e. selected region, Col 19, line 48) and collectively displays remaining components (i.e. children of the selected region may be displayed, Col 19, line 50) as a component region.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

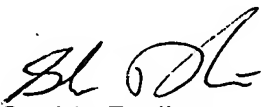
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Suchin Parihar whose telephone number is 571-272-6210. The examiner can normally be reached on Mon-Fri, 8:30am-5:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Chiang can be reached on 571-272-7483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PAUL DINH
PRIMARY EXAMINER



Suchin Parihar
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